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THE 115TH ICR ANNUAL SYMPOSIUM

(11 December 2015)

ORAL PRESENTATIONS

SHIZU, Katsuyuki (Molecular Materials Chemistry)
“Theoretical and Computational Chemistry toward Organic Materials and Devices”

NGUYEN, Hao Canh (Bio-knowledge Engineering)
“Machine Learning on Graphs for Biological Network Analysis”

UMETANI, Shigeo (Hydrospheric Environment Analytical Chemistry)
“Development of Functional Separation Materials Selective for Rare Metals”

TAKEUCHI, Toshihide (Biofunctional Design-Chemistry)
“Intercellular Chaperone Transmission via Exosomes Contributes to Maintenance of Organismal Proteostasis”

MATSUMIYA, Yumi (Molecular Rheology)
“Dynamics of Associative Polymer System”

— ICR Award for Young Scientists —
MURATA, Michihisa (Structural Organic Chemistry)
“Electron-deficient Tetrabenzo-fused Pyracylene and Conversions into Curved and Planar π -Systems Having Distinct Emission Behaviors”

— ICR Award for Young Scientists —
UEDA, Yoshihiro (Synthetic Organic Chemistry)
“Final-stage Site-selective Acylation for the Total Syntheses of Multifidosides A-C”

— ICR Award for Young Scientists (Foreign Researchers' Category) —
PATEL, Vijay Kumar (Polymer Controlled Synthesis)
“Practical Synthesis of $[n]$ Cycloparaphenylenes ($n=5, 7-12$) by H_2SnCl_4 -Mediated Aromatization of 1,4-Dihydroxycyclo-2,5-diene Precursors”


— ICR Award for Graduate Students —
TAKEUCHI, Hironori (Synthetic Organic Chemistry)
“Total Synthesis of Ellagitannins via Regioselective Sequential Functionalization of Unprotected Glucose”


— ICR Award for Graduate Students —
SHIOYA, Nobutaka (Solution and Interface Chemistry)
“A New Schematic for Poly(3-alkylthiophene) in an Amorphous Film Studied Using a Novel Structural Index in Infrared Spectroscopy”


— ICR Grants for Promoting Integrated Research —
NAKANISHI, Yohei
“Orientation Process of Brush-modified Nanoparticles by Synchrotron Small Angle X-ray Scattering”

ISOZAKI, Katsuhiro
“Unprecedented Acceleration of Silane Alcoholysis Reaction in Self-assembled Monolayer on Gold Nanoparticle Catalysts”

POSTER PRESENTATIONS

 : Laboratory Whole Presentation


 : Laboratory Topic


 : General Presentation


— Organoelement Chemistry —

 “Research Topics in Organoelement Chemistry”


— Structural Organic Chemistry —


 “Research Activities in Structural Organic Chemistry Laboratory”

 KAJI, Shoji; MURATA, Michihisa; WAKAMIYA, Atsushi; MURATA, Yasujiro
“Synthesis and Structure of Gold Complexes Having Thianthrene Dithiolate Ligands”

 SHIMOGAWA, Hiroyuki; WAKAMIYA, Atsushi; MURATA, Yasujiro
“D-A Type Organic Dyes with Bis(Difluoroboron) Dipyrrolylethanedione as a New Electron-Accepting Unit”


— Synthetic Organic Chemistry —


 “Recent Advances of Research in Synthetic Chemistry Laboratory”


 YELLA, Ramesh; BABA, Tomonori; TANAKA, Yuya; YAMAMOTO, Satoru; FURUTA, Takumi; KAWABATA, Takeo
“Stereoselective Intramolecular Cross-aldol and Desymmetrization of Aliphatic Dials Enabled by Axially Chiral Aniline-type Catalyst”

— Advanced Inorganic Synthesis —


 “Research Activity of Advanced Inorganic Synthesis”

 EGUCHI, Daichi; SAKAMOTO, Masanori; TERANISHI, Toshiharu
“Structural Control of Porphyrin Face-coordinated Gold Clusters for Constructing Suprastructures”

 MATSUMOTO Kenshi; SATO Ryota; TRINH, T. Thuy; SAKUMA Noritsugu; TERANISHI Toshiharu
“High-Performance $L1_0$ -FePd/ α -Fe Nanocomposite Magnets with Controlled Crystal Grain Size”

 KIMURA, Masato; SAKAMOTO, Masanori; FURUBE, Akihiro; ADACHI, Hiroyuki; SUGIMOTO, Toshiki; WATANABE, Kazuya; MATSUMOTO, Yoshiyasu; TERANISHI, Toshiharu
“Synthesis and Visible Light-induced Charge Separation of Heterostructured Au/ZnS Nanoparticles”

— Chemistry of Polymer Materials —

 “Research Activities in Laboratory of Chemistry of Polymer Materials”

[GE] YAHATA, Yoshikazu; OHNO, Kohji; TSUJII, Yoshinobu
“Polymer-brush-grafted Particles for Control of Phase Separation in Polymer/Ionic-liquid Blend Films”

— Polymer Controlled Synthesis —

[LW] “Research Topics of Polymer Controlled Synthesis Laboratory”

[GE] ONISHI, Hiroaki; KAYAHARA, Eiichi; YAMAGO, Shigeru
“Synthesis and Physical Property of Oxygenated [10] Cycloparaphenylene”

[GE] QU, Rui; KAYAHARA, Eiichi; YAMAGO, Shigeru
“Synthetic Studies of CPP Derivatives via Bromination of CPPs”

[GE] FAN, Weijia; NAKAMURA, Yasuyuki; YAMAGO, Shigeru
“Controlled Polymer Synthesis Based on Multi-functional TERP Initiators”

[GE] OGIHARA, Tasuku; NAKAMURA, Yasuyuki; YAMAGO, Shigeru
“Elucidation of the Effect of Reaction Media in the Radical-radical Reaction”

— Inorganic Photonics Materials —

[LT] UEDA, Yuki; MASAI, Hirokazu; TOKUDA, Yomei
“Structural Analysis of Lithium Silicate Glasses”

[GE] USUI, Takaaki; MASAI, Hirokazu; TOKUDA, Yomei
“Optical Properties of Ce³⁺-doped Li₂O-B₂O₃-SiO₂ Glasses”

— Nano Spintronics —

[LT] “Development of Novel Spintronic Devices”

[GE] KAKIZAKAI, Haruka; YAMADA, Kihiro; KAWAGUCHI, Masashi; KOYAMA, Tomohiro; CHIBA, Daichi; Ono, Teruo
“Approach to Electric Field Induced Domain Wall Motion in MgO/Cu/Pt System”

[GE] YAMADA, Kihiro; KAKIZAKAI, Haruka; KOYAMA, Tomohiro; ONO, Shimpei; MIWA, Kazumoto; KAWAGUCHI, Masashi; CHIBA, Daichi; ONO, Teruo
“Electric Field Control of Superparamagnetic Ni/Cu Structure”

— Biofunctional Design-Chemistry —

[LW] “Research Activity at Biofunctional Design Chemistry”

[GE] WATANABE, Kensuke; TAKEUCHI, Toshihide; NAKASE, Ikuhiko; FUTAKI, Shiroh
“Analyzing Cellular Functions of Syndecan-4 Using Method for Controlling Dimer Formation of Membrane Proteins”

— Chemistry of Molecular Biocatalysts —

[LW] “Research Activities in the Laboratory of Chemistry of Molecular Biocatalysts”

— Molecular Biology —

[LW] “Research Activity in Laboratory of Molecular Biology”

— Chemical Biology —

[LW] “Create New World of Bioactive Synthetic Small Molecules”

— Molecular Materials Chemistry —

[LT] FUKUSHIMA, Tatsuya; SUZUKI, Hajime; SHIZU, Katsuyuki; SUZUKI, Katsuaki; KUBO, Shosei; KOMINO, Takeshi; OIWA, Hajime; SUZUKI, Furitsu; WAKAMIYA, Atsushi; MURATA, Yasujiro; ADACHI, Chihaya; KAJI, Hironori
“Purely Organic Emitter for Organic Light-emitting Diodes with External Quantum Efficiency above 40%”

— Hydrospheric Environment Analytical Chemistry —

[LT] MINAMI, Tomoharu; KONAGAYA, Wataru; Zheng, Linjie; SOHRIN, Yoshiki
“Sectional Distributions of Bioactive Trace Metals in the Pacific Sector of the Southern Ocean and the Western Pacific”

[GE] UEHARA, Wataru; TAKANO, Shotaro; ZHENG, Linjie; MINAMI, Tomoharu; SOHRIN, Yoshiki
“Development of Analytical Method for Nickel, Copper and Zinc Stable Isotopes in Seawater with an Off-line Automated Preconcentration System”

— Solution and Interface Chemistry —

[GE] IZUMI, Naoki; SHIMOAKA, Takafumi; HASEGAWA, Takeshi
“IR Spectroscopic Analysis of Polymer Thin Films of Fluoroacrylates Having an Rf Side Chain with Various Lengths”

[GE] UKAI, Hironori; SHIMOAKA, Takafumi; NODA, Takumu; YAMADA, Norihiro; HASEGAWA, Takeshi
“Study on the Long-distance Interaction of Perfluoroalkyl Compounds Involving a Bulky Substituent”

[LT] HADA, Miyako; SHIOYA, Nobutaka; SHIMOAKA, Takafumi; EDA, Kazuo; HASEGAWA, Takeshi
“Structure Analysis of a Semiconductor Thin Film of a Porphyrin Derivative Using IR pMAIRS and GIXD”

— Molecular Microbial Science —

[LW] “Research of Molecular Microbial Science Laboratory”

[GE] TOKUNAGA, Tomohisa; WATANABE, Bunta; KAWAMOTO, Jun; KURIHARA, Tatsuo
“Synthesis of ω -terminal Modified Polyunsaturated Fatty Acid and Its Application to Physiological Studies”

— Polymer Materials Science —

[LW] “Polymer Material Science”

[GE] MURAKAMI, Momoko; MAEDE, Tadahiko; OGAWA, Hiroki; NISHIDA, Koji; KANAYA, Toshiji
“Structure Formation of Polyethylene Films during Uniaxial Drawing”

[GE] KISHIMOTO, Mizuki; INOUE, Riontaro; OGAWA, Hiroki; NISHIDA, Koji; KANAYA, Toshiji
“Effect of Substrate Surface Modification on the Glass Transition Temperature and Its Distribution of Polymer Thin Films”

— Molecular Rheology —

[LW] “Research Activities in Molecular Rheology Laboratory”

— Molecular Aggregation Analysis —

[LT] MURDEY, Richard; NAKAO, Kazuto; SATO, Naoki
“*In Situ* Electrical Measurements on Donor-Acceptor Thin Film Interfaces”

— Particle Beam Science —

[LW] “Status of Accelerator Laboratory, Advanced Research Center for Beam Science”

[GE] FUWA, Yasuhiro; IWASHITA, Yoshihisa; TONGU, Hiromu
“Development of RF-Synchronized Short Pulse Laser Ion Source”

[GE] KITAHARA, Ryunosuke; IWASHITA, Yoshihisa; NOP Group
“A Report of the Neutron Life Time Measurement at J-PARC/BL05”

[GE] IMAJO, Sohei
“Ultracold Neutron Production with Doppler Shifter at J-PARC/BL05”

— Laser Matter Interaction Science —

[LW] “Research Activities in Laboratory of Laser Matter Interaction Science”

[GE] WATANABE, Kota; INOUE, Shunsuke; TERAMOTO, Kensuke; NEMOTO, Takashi; NAKAMIYA, Yoshihide; KURATA, Hiroki; HASHIDA, Masaki; SAKABE, Shuji
“Development of the Ultrafast Electron Diffraction Instrument Using Laser-accelerated Electron Beams”

[GE] TERAMOTO, Kensuke; INOUE, Shunsuke; TOKITA, Shigeki; YASUHARA, Ryo; MORI, Kazuaki; WATANABE, Kota; NAKAMIYA, Yoshihide; HASHIDA, Masaki; SAKABE, Shuji
“Transmission of Electromagnetic Waves Emitted from Intense Laser Plasma Using a Metal Wire”

[GE] MORI, Kazuaki; HASHIDA, Masaki; NAGASHIMA, Takeshi; INOUE, Shunsuke; SAKABE, Shuji
“Terahertz Wave Generation in the Interaction of Two-pulse Laser with Clusters”

[GE] NAKAJI, Ryosuke; INOUE, Shunsuke; TERAMOTO, Kensuke; FUJITA, Kazuhisa; MIMA, Kunioki; KATO, Yoshiaki; NAKAMIYA, Yoshihide; HASHIDA, Masaki; SAKABE, Shuji
“Development of Diagnostics for Li-ion Batteries by Using Laser-driven Proton Beams”

— Electron Microscopy and Crystal Chemistry —

[LW] “Research Activities in Laboratory of Electron Microscopy and Crystal Chemistry”

[LT] KURATA, Hiroki; HARUTA, Mitsutaka; FUJIYOSHI, Yoshifumi; TOMISAKI, Yuriko; NEMOTO, Takashi
“High Energy Resolution EELS of Organic Thin Films”

— Structural Molecular Biology —

[LW] “Introduction of Structural Molecular Biology Laboratory”

— Organic Main Group Chemistry —

[LW] “Research of Organic Main Group Chemistry”

[GE] ADAK, Laksmikanta; JIN, Masayoshi; NAKAMURA, Masaharu
“Iron-Catalyzed Enantioselective Cross-Coupling Reaction of Racemic α -Haloesters”

[GE] NAKAJIMA, Sho; ISOZAKI, Katsuhiko; NAKAGAWA, Naohisa; IMAYOSHI, Ryuji; HASHIMOTO, Toru; GOWER, Nicholas, J.; ADAK, Laksmikanta; HONMA, Tetsuo; TAKAGAKI, Masafumi; SUNADA, Yusuke; NAGASHIMA, Hideo; HASHIZUME, Daisuke; IWAMOTO, Takahiro; HATAKEYAMA, Takuji; TAKAYA, Hikaru; NAKAMURA, Masaharu
“Mechanistic Study of Iron-Catalyzed Cross-Coupling Reaction Using Synchrotron X-Ray Absorption Spectroscopy”

[GE] AGATA, Ryosuke; IWAMOTO, Takahiro; NAKAGAWA, Naohisa; ISOZAKI, Katsuhiko; HATAKEYAMA, Takuji; TAKAYA, Hikaru; NAKAMURA, Masaharu
“Development of Iron Fluoride-NHC Catalyzed Alkylation of Aryl Chlorides and XAFS Study on the Mechanism”

— Advanced Solid State Chemistry —

[LW] “Introduction of Advanced Solid State Chemistry Laboratory”

[GE] GUO, Haichuan; HOSAKA, Yoshiteru; SEKI, Hayato; SAITO, Takashi; ICHIKAWA, Noriya; SHIMAKAWA, Yuichi
“The Synthesis and Peculiar Charge Disproportionation of the Novel A-site Layered Perovskite Oxide $\text{LaCa}_2\text{Fe}_3\text{O}_9$ with Unusual High Valence Fe Ion”

— Organotransition Metal Chemistry —

[LW] “Activity Report: Organotransition Metal Chemistry Laboratory”

[GE] TAGUCHI, Hiroomi; SASAKI, Daichi; CHANG, Yung-Hung; TAKEUCHI, Katsuhiko; TSUJIMOTO, Shota; MATSUO, Tsukasa; TANAKA, Hiromasa; YOSHIZAWA, Kazunari; OZAWA, Fumiyuki
“Synthesis and Reaction of Transition Metal Complexes with a Noninnocent PNP-Pincer Type Phosphaalkene Ligand Eind-PPEP”

[GE] IIZUKA, Eisuke; WAKIOKA, Masayuki; OZAWA, Fumiyuki
“Development of A Mixed-Ligand Approach to Highly Selective Direct Arylation Polymerization”

— Photonic Elements Science —

[LW] “Recent Research Topics of Photonic Elements Science Group”


— Chemical Life Science —

[LW] “Research Topics in Laboratory of Chemical Life Science”

[GE] NISHIYAMA, Hiroki; OGATA, Hiroyuki; AOYAMA, Takashi
“Characterization of Arabidopsis thaliana ARR1 Binding Sites Based on ChIP-Seq Data”

[GE] KHAIRIL ANUAR, Mohammad Fahmi Arief; ABDUL HALIM, Arhaime Hamezze; MUHAMAD, Rafidah; MOHD HASRI, Nurul Nadzirah; BLANC-MATHIEU, Romain; OGATA, Hiroyuki; GOTO, Susumu
“GenomeNet Service and a New Computational Tool for Gene Function Annotation”


— **Mathematical Bioinformatics** —

 “Predicting Heterodimeric Protein Complexes Using Novel Kernel Functions”

— **Bio-knowledge Engineering** —

 NGUYEN, Hao Canh; MAMITSUKA, Hiroshi
“Global Graph Comparison for Graph Cut-based Clustering”

— **Research Center for Low Temperature and Materials Sciences** —

 TERASHIMA, Takahito
“Hybrid Superlattices of Heavy Fermion Compounds”